

Edited highlights of a paper presented by Grahame Walton, chief advisory officer (apiculture), Ministry of Agriculture and Fisheries.

Qualified apiculture advisers

The National Diploma of Apiculture is now recognised as an appropriate qualification for our existing staff. Two officers who have obtained the diploma by examination, Trevor Bryant and Vince Cook, have been promoted to apicultural advisory officers. Apiary section staff with more than 15 years' service may be redesignated as apicultural advisory officers without the need to undertake the three year diploma course. As a result of these changes, career prospects should be much wider than before. This should result in improved staff morale and consequently an improved service to the industry.

New advisory chief

The position of chief advisory officer (apiculture) at Wellington has been confirmed with the appointment of Mr Grahame Walton. Mr Walton was formerly apicultural advisory officer for the North Island and stationed at Palmerston North. A vacancy for the position of apicultural advisory officer, Palmerston North has been advertised and an appointment is pending.

Jack Varley retires

During the past year Mr Jack Varley, apiary instructor, Nelson, has retired after nine years' valuable service. Mr Andrew Matheson, apicultural advisory officer, has been appointed as Mr Varley's replacement.

American Brood Disease

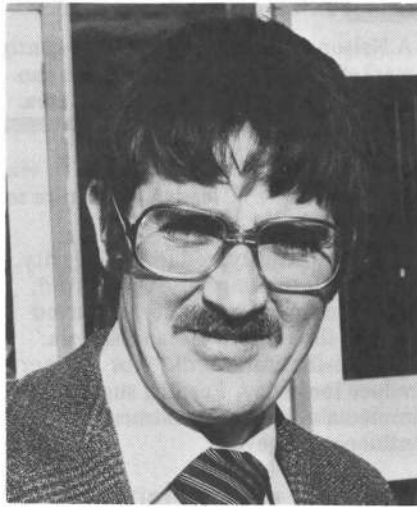
There has been an increase in the level of American Brood Disease in the last few years. During the 1977/78 season 541 apiaries (3.1 per cent) and 1 294 hives (0.6 per cent) were found to be infected with American Brood Disease and were destroyed.

The increase cannot be regarded as a rapidly growing problem as headlined in the March issue of the "New Zealand Beekeeper". The ministry's disease records clearly show that beekeepers are themselves reporting more disease, and indeed beekeepers are legally required to do so. A few years ago most disease was detected by the ministry's check inspection programme. This check inspection, and disease detection, has continued at about the same levels, however beekeepers are themselves now reporting over 80 per cent of all diseased apiaries.

Although most beekeepers are doing an excellent job in reporting and controlling American Brood Disease the ministry is concerned that a few beekeepers (and fortunately it is only a few) continue to maintain unacceptably high levels of disease throughout their enterprises.

Honey export potential

At the minister's direction, the director-general of agriculture and fisheries established a review panel to examine the opportunities in the export field for New Zealand's horticultural and apicultural products. Mr Vince Cook, apicultural advisory officer, Oamaru,



Grahame Walton

compiled the beekeeping section of this report. The beekeeping industry has the potential to double in size and produce the additional honey and other exportable products to the value of about 10 million dollars.

Also at the minister's direction the ministry will over the next year examine the potential for honeydew production in the South Island.

Artificial Insemination

With the support of funds provided by your association, Mr John Smith, apiary instructor, Christchurch, studied the techniques used in artificial insemination of bees in Poland. Mr Smith has outlined the significance of his Poland visit at many well attended meetings throughout the country. A small group of beekeepers are keen to see that this method of queen rearing is developed further, and the ministry will endeavour

to encourage this development by providing a technical advisory service.

Meetings and Seminars

The ministry has organised and held a number of discussion groups, seminars, field-days and courses during the past year. Considerable interest was shown in two comb honey discussion groups organised by Mr Murray Reid, Hamilton, and Mr Brian Milnes, Auckland.

Mr Trevor Bryant, apicultural advisory officer, Gore, has held some well-attended one-day seminars on various topics in recent years. A three-day course was held at the ministry's farm training institute at Flock house earlier this year and it is intended to hold further courses at Flock House and at Telford (near Balclutha) next year.

Apiary section staff have attended many National Beekeepers' Association meetings and field-days, as well as domestic bee clubs. Some staff have assisted or initiated night classes in beekeeping at technical institutes.

Publications

Staff have continued to provide material for the "New Zealand Beekeeper". A number of newsletters have also been prepared by some staff. During the past year the ministry has adopted a news sheet information series called "AgLink". The first article in this series, on American Brood Disease, has recently been released.

Overseas aid

Under New Zealand's bilateral aid programme a 10-week training visit was arranged for an agricultural extension worker from Guyana, and a four-week course was provided for a Niue Island beekeeper. Mr Vince Cook, project director of the Papua New Guinea/New Zealand development project, has made three trips to Papua New Guinea in the past year. This project is progressing very well despite a localised disease problem earlier this year.

Trees for bees

The apiary section has been active in promoting the planting of nectar and pollen sources. This promotion has been achieved through discussions with other government departments and organisations, newspaper and journal articles, and at meetings and field-days involving farmers and other interested

Beekeepers, Apiaries and hives

AS AT MAY 31, 1978, there was a total of 4092 beekeepers owning 17 273 registered apiaries and 210 978 hives.

Category	Beekeepers	Apiaries	Hives
owning 1 to 50 hives	3 737	5 352	21 136
owning 51 to 500 hives	233	3 782	50 734
owning 501 hives and over	122	8 139	139 108
All beekeepers (501)	4 092	17 273	210 978

Nearly 88 per cent of New Zealand's hives are owned by 9 per cent of the beekeepers; those with more than 50 hives each.

The total number of hives has remained fairly static in recent years. However a significant feature has been an upsurge in the number of beekeepers. There has been a 10 per cent increase in the past year. Apiary section staff report that many hobbyist bee clubs have rejuvenated memberships and this has been reflected in apiary registrations.

groups. A small field-trial is underway in Canterbury.

Moisture in honey

Trevor Bryant, apicultural advisory officer, Gore, has recently carried out a trial involving the controlled addition of moisture to "dry honey" to aid in its extraction and processing. The results of this work will be published.

The wasp problem

The ministry acknowledges that in most districts the European Wasp can be a serious problem. At the present state of our knowledge the ministry cannot do much more than it has done.

A Nelson commercial firm has recently marketed a wasp attractant that can reduce wasp levels in a localised area.

This product leaves it to the purchaser to incorporate a suitable wasp attractant. Some beekeepers claim success with their own recipes. The ministry cannot recommend an attractant that is likely to attract the beneficial honeybee. I am sure your association would be one of the first to object to the ministry doing so.

The most reliable ways of controlling wasp attacks are to either eliminate all nests in the vicinity of the affected apiaries, or to shift apiaries to safer areas.

Staff training

An apiary section staff course was held in Auckland late last year. Opportunities have been given to staff to see beekeeping operations in other apiary districts. A number of apiary advisers have given individual or group tuition to other ministry staff (horticultural inspectors, advisory assistants, and livestock officers) in disease control procedures.

Four staff members attended the XXVI International Apicultural Congress in Adelaide, Australia, and three presented papers.

Wallaceville report

Highlights of a paper presented by Pat Clinch, leader, apiculture section, Wallaceville Animal Research Centre

Clover aphicide cleared

The recent arrival of the blue-green lucerne aphid in New Zealand has required the application of aphicides to flowering white clover. A field trial carried out near Ashburton showed that pirimicarb, at the rate of 125 g active ingredient per hectare, applied as a spray, in the morning, before bees were flying, was safe to honey bees.

Rape granules safe

During the 1976-77 and 1977-78 seasons, as flowering commenced, honey bees were collected from oil-seed rape crops treated with disulfoton or phorate granules at sowing, in Mid and South Canterbury. Mortality was negligible, indicating that these treatments do not present a hazard to honey bees.

Carbon dioxide and bees

In some laboratory tests it is necessary to use the gas carbon dioxide (CO²) to anaesthetise honey bees. Although it was known that this treatment had a harmful effect on worker bees, it was not known how severe the effect might be. Tests were therefore carried out to quantify the reduction in longevity that occurs after CO² treatment.

Compared with control bees, in most tests both single and double doses of

CO² significantly reduced longevity. In some tests longevity was halved, and significant mortality occurred within three days of anaesthesia. Re-anaesthetisation did not further reduce longevity. Feeding sugar syrup immediately before treatment did not influence longevity.

Control of external mites

Further laboratory and field tests were carried out to control *A. externus* by feeding infested honey bees with sugar syrup containing pesticides. Fenbutatin oxide was found to be as effective as endosulfan both in the laboratory and field.

Honey and pollen contamination

Preliminary work has started at Wallaceville on an investigation to find out if any agricultural chemical application may result in the contamination of honey and pollen. To date sampling has not started, though previous samplings in other years have not revealed any traces of agricultural chemicals.

Hive variations studied

There were up to threefold differences in the honey production of colonies in this experiment. However, the differences were not directly correlated with the incidence of either *Nosema* disease

or external mites (*A. externus*), or with the longevity of worker bees.

Brood disease sampling

Following the confirmation of European brood disease in three States of Australia, a procedure was introduced by MAF apiary section and the apiculture section at Wallaceville. Samples from colonies showing any unusual brood condition were examined microscopically. Some sub-samples were sent overseas for confirmatory examination. It was considered that if European brood disease was confirmed in this country, there was a chance that it might be eradicated before it became widespread. So far the disease has not been discovered here.

Nosema disease levels

Samples of bees, collected from the flowers of crops in Mid and South Canterbury during experiments with pesticides, were examined individually at Wallaceville for *Nosema* spores. In all 25 samples collected during December 1977, less than 40 per cent of the bees were infected, and in the majority, less than 20 per cent were infected. This was in contrast to December 1976 when more than 40 per cent of bees were infected in every sample. The lower levels in 1977 probably reflected the drier weather conditions in the spring of that year.